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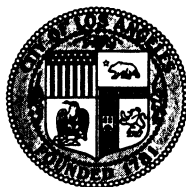
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TERMINAL ISLAND
TREATMENT PLANT
445 Ferry Street
San Pedro, CA 90731
(310) 548-7520
FAX: (310) 548-7488

January 30, 1998

Ms. Lauren Fondahl, Biosolids Coordinator
U.S. EPA - Region IX (W-5-2)
75 Hawthorne Street
San Francisco, CA 94105

Dear Ms. Fondahl:

CITY OF LOS ANGELES' TERMINAL ISLAND WASTEWATER TREATMENT PLANT
1997 BIOSOLIDS ANNUAL REPORT

On behalf of the City of Los Angeles, Bureau of Sanitation, I am sending the enclosed 1997 Biosolids Annual Report for Terminal Island Wastewater Treatment Plant. This satisfies the generator reporting requirements in accordance with the U.S. EPA 40 CFR Part 503 Sewage Sludge Regulations.

If you have any questions, please contact Y.J. Shao of my staff at (310)548-7520.

Sincerely,

Clarence C. Mansell, Jr.
CLARENCE C. MANSELL, JR., Plant Manager III
Terminal Island Treatment Plant

CCM/PA/nah

012998nah A:BIOANN97.PAW



**1997 ANNUAL REPORT
FOR
THE CITY OF LOS ANGELES TERMINAL ISLAND
WASTEWATER TREATMENT PLANT
IN COMPLIANCE WITH USEPA 40 CFR PART 503 SEWAGE SLUDGE
REGULATIONS REPORTING REQUIREMENT**

SUBMITTED TO

**Lauren Fondahl, Biosolids Coordinator
U.S. Environmental Protection Agency
Region 9**

February 1998

PROGRAM STAFF

**Bureau of Sanitation
Clarence C. Mansell Jr., Plant Manager III
Y.J. Shao, Plant Manager I**

PREPARED BY

**Bureau of Sanitation
Department of Public Works
City of Los Angeles**

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SECTION 1

BACKGROUND INFORMATION

The City of Los Angeles, Department of Public Works, Bureau of Sanitation operates four wastewater facilities (Hyperion and Terminal Island Treatment Plants and Donald C. Tillman and Los Angeles Glendale Water Reclamation Plants) within a 600 square mile service area that includes four million people and 29 contracting cities and agencies. The Hyperion Treatment Plant (HTP) receives and processes flow from its service area and from the two water reclamation plants while the Terminal Island Treatment Plant (TITP) processes flow from its independent service area. Together, the four facilities process an average of 460 million gallons per day of wastewater and produce 200 dry metric tons per day of biosolids. All of the biosolids are beneficially used.

Thus, the City of Los Angeles must comply with the standards of the United States Environmental Protection Agency (USEPA) 40CFR Part 503 Sewage Sludge Regulations. The following are the reports requirements:

Preparer to Others:

General Information was provided to land applier, and composter as stated in Section 503.12(d), (f) and (g).

Preparer to USEPA Region 9:

The Terminal Island Treatment Plant is required to report the information in Section 503.18 for preparer of biosolids. The information includes the submittal of information in section 503.17(a)(5)(i)(A) through (D) from January 1997 through December 1997.

Deriver to USEPA Region 9:

The Terminal Island Treatment Plant is not required to provide the information in Section 503.17(a)(2)(i) through (iv) for composting facilities, because the treatment plant did no composting in 1997. The City's contractor, San Joaquin Composting Inc., will report this information directly to USEPA Region 9.

Beneficial uses and distribution of biosolids

From January 1997 to December 1997 biosolids generated by TITP were 100% beneficially used as soil amendment to grow feed and fiber crops and an organic ingredient in the production of compost. Table 1 presents the distribution of biosolids among its beneficial use options.

Table 1 - Percent distribution of biosolids to beneficial use options

Beneficial Use Options	Dry Metric Tons	% of Use
Soil Amendment (land application)	2,016	59
Compost	1,401	41
Total	3,417	100

Facility information for Preparer, land applier, and composter is provided in Appendix A.

SECTION 2

PREPARER (distributed to land applier and composter)

Section 503.12 (d) (f) and (g) (general requirements) states that the preparer shall provide information to the applier/composter to allow the applier/composter (deriver) to comply with the requirements.

Section 503.18 (reporting) requires the following information in Section 503.17 (a)(5)(i)(A) through (D) for Terminal Island from January 1997 through December 1997 to be submitted to the permitting authority on February 19, 1998.

Information Provided to others [503.12 (d), (f) and (g)]

All the information under Section 503.17 (a)(5)(i)(A) to (D) for the Terminal Island biosolids was provided to land applier Biogro System and San Joaquin Composting, Inc. Other information was supplied as requested.

Pollutant Concentrations [503.17 (a)(5)(i)(A)]

Section 503.16 (frequency of monitoring) requires TITP to monitor pollutant concentrations in biosolids on a bimonthly basis. However, TITP biosolids are analyzed monthly for all ten metals and biweekly for cadmium copper, lead, nickel and zinc only for January through April..

The results are summarized as follows:

- All TITP metals concentrations were below Table 1 ceiling concentration limits of Section 503.13 except for selenium in July through November.
- All TITP metals concentrations remained below Table 3 of Section 503.13 except for selenium in July through November.

Refer to Appendix B for the detailed, analytical test results and methods for TITP pollutant concentrations.

The biosolids samples are prepared by the appropriate digestion and extraction procedures described in "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", SW-846, 3rd edition, U.S. EPA, 1986 with Revisions up to 1992.

**Certification Statement, Pathogen Reduction (PR) and Vector Attraction Reduction (VAR)
[503.17 (a)(5)(i)(B) to (D)]**

Refer to Appendix C for the certification statements containing descriptions of PR and VAR for TITP biosolids.

All TITP material complied with Class B requirements for PR and VAR.

APPENDIX A

Facility Information for Preparer, Land Applier, and Composter

BIOSOLIDS PREPARER FACILITY INFORMATION

TERMINAL ISLAND TREATMENT PLANT - PREPARER OF BIOSOLIDS:

City of Los Angeles
Department of Public Works
Bureau of Sanitation
Terminal Island Treatment Plant

Clarence C. Mansell, Jr., Plant Manager III
445 Ferry Street
San Pedro, CA 90731

NPDES Number: CA0053856

BIOSOLIDS LAND APPLIER FACILITY INFORMATION

Biogro System
19600 Fairchild Road, Suite 120
Irvine, CA 92715

Mark Taylor, General Manager
Telephone: (800)285-2479
FAX: (714)476-8614

BIOSOLIDS DERIVER FACILITY INFORMATION (composter)

San Joaquin Composting Inc.
525 N. Shafter Ave
Shafter, CA 93263-1505

Scott Deatherage, General Manager
Telephone: (805)746-7623
FAX: (805)746-0155

APPENDIX B

Terminal Island Treatment Plant' Analytical Test Results of Metals Concentrations for Preparer

Table 3. BENEFICIAL USE ASSESSMENT OF BIOSOLIDS AT TERMINAL ISLAND TREATMENT PLANT
The concentrations are in mg/kg of dry weight
12 Month Trend

Mo/Yr	pH	%TS	As	Cd	Cr	Cu	Mo	Pb	Hg	Ni	Se	Zn
			3050# 7061##	3050# 6010##	3050# 6010##	3050# 6010##	3050# 6010##	3050# 6010##	7471# 7471##	3050# 6010##	3050# 7740##	3050# 6010##
Dec97(1)	8.1	16.9	11.7	3.97	27	249	16.2	46	0.95	30.2	72.3	823
Nov97(1)	7.7	21.1	12.6	5.17	45	351	35.9	87	1.28	36.0	100.9	1118
Oct97(1)	7.8	17.4	9.4	6.78	44	287	24.1	129	1.70	44.8	131.0	977
Sep97(1)	7.9	20.1	7.3	5.22	51	341	35.6	65	2.54	37.5	133.8	1040
Aug97(1)	8.1	26.0	8.9	3.12	32	235	15.0	76	2.31	38.8	123.1	765
Jul97(1)	7.9	19.0	14.9	5.05	53	300	19.5	72	2.00	45.8	109.0	937
Jun97(1)	8.0	25.2	12.9	4.44	54	301	21.0	77	9.04	50.8	83.1	893
May97(1)	8.5	25.4	12.8	4.33	57	303	19.7	83	7.68	39.8	64.2	898
Apr97(2)		24.1		4.61		307		81		37.3		929
Apr97(1)	8.0	25.2	12.4	5.00	54	306	19.0	75	4.25	36.1	85.7	905
Mar97(2)		25.1		4.42		307		79		37.1		968
Mar97(1)	7.9	24.2	21.2	4.17	56	310	19.3	82	2.64	38.8	89.3	893
Feb97(2)		24.3		4.53		304		101		48.2		927
Feb97(1)	8.0	22.2	20.9	4.70	51	312	22.3	123	2.79	42.0	99.4	921
Jan97(2)		24.0		4.50		375		130		56.7		888
Jan97(1)	8.0	24.1	19.1	4.56	42	290	26.2	63	2.49	34.0	75.1	780
AVG	8.0	22.8	13.7	4.66	47	305	22.8	86	3.31	40.9	95.8	916
MAX	8.5	26.0	21.2	6.78	57	375	35.9	130	9.04	56.7	133.8	1118
MIN	7.7	16.9	7.3	3.12	27	235	15.0	46	0.95	34.2	64.2	765
Ceiling Conc.*			75	85	***	4300	75	840	57	420	100	7500
Pollutant Conc**			41	39	***	1500	****	300	17	420	100	2800

#,## Sample preparation and analytical methods, respectively, are adopted from EPA SW-846, 3rd Edition, 1986

1 and 2 in parenthesis refer to the first and second biweekly samples, respectively.

* Ceiling Concentrations in Table 1 of EPA Part 503 sludge regulation.

** Pollutant Concentration in Table 3 of EPA Part 503 sludge regulation.

*** Limit was deleted according to Federal Register vol. 60, No. 206 of Oct. 25, 1995.

**** Pending for EPA's reconsideration.

APPENDIX C

Terminal Island Treatment Plant Pathogen and Vector Attraction Reduction Description and Certification Statements

**CITY OF LOS ANGELES
TERMINAL ISLAND TREATMENT PLANT**

**BIOSOLIDS CERTIFICATION STATEMENT
FOR MEETING PATHOGENS AND VECTOR
ATTRACTION REDUCTION REQUIREMENTS
JANUARY AND FEBRUARY 1997**

The following pathogens and vector attraction reduction requirements information has been prepared in accordance with the USEPA 40CFR Part 503 Sewage Sludge Regulations:

503.17 (a) (4) (i) (C) - A description of how the pathogen requirements in 503.32 (b) (3) are met.

Sludge undergoes anaerobic mesophilic digestion with a mean cell residence time greater than 15 days and temperature at 35 to 55 degrees Celsius.

503.17 (a) (4) (i) (D) - A description of how the vector attraction reduction requirements in 503.33 (b) (1) are met.

Sludge undergoes anaerobic, mesophilic digestion. The mass of volatile solids in the sewage sludge are reduced by greater than 38 percent.

503.17 (a) (4) (i) (B) - Certification Statement for meeting Pathogens and Vector Attraction Reduction Requirements.

I certify, under penalty of law, that the pathogen requirements in 503.32 (b) (3) and the vector attraction reduction requirements in 503.33 (b) (1) have been met. This determination has been made under my direction and supervision in accordance with the system designed to ensure that qualified personnel properly gather and evaluate the information used to determine that the pathogen and vector attraction reduction requirements have been met. I am aware that there are significant penalties for false certification including the possibility of fine and imprisonment.

**FOR THE CITY OF LOS ANGELES
TERMINAL ISLAND TREATMENT PLANT**

BY: Clarence C. Mansell, Jr.
CLARENCE C. MANSELL, JR.

3-6-97
DATE

**CITY OF LOS ANGELES
TERMINAL ISLAND TREATMENT PLANT**

**BIOSOLIDS CERTIFICATION STATEMENT
FOR MEETING PATHOGENS AND VECTOR
ATTRACTION REDUCTION REQUIREMENTS
MARCH AND APRIL 1997**

The following pathogens and vector attraction reduction requirements information has been prepared in accordance with the USEPA 40CFR Part 503 Sewage Sludge Regulations:

503.17 (a) (4) (i) (C) - A description of how the pathogen requirements in 503.32 (b) (3) are met.

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**FOR THE CITY OF LOS ANGELES
TERMINAL ISLAND TREATMENT PLANT**

BY: Clarence C. Mansell, Jr.
CLARENCE C. MANSELL, JR.

5-6-97
DATE

**CITY OF LOS ANGELES
TERMINAL ISLAND TREATMENT PLANT**

**BIOSOLIDS CERTIFICATION STATEMENT
FOR MEETING PATHOGENS AND VECTOR
ATTRACTION REDUCTION REQUIREMENTS
MAY AND JUNE 1997**

The following pathogens and vector attraction reduction requirements information has been prepared in accordance with the USEPA 40CFR Part 503 Sewage Sludge Regulations:

503.17 (a) (4) (i) (C) - A description of how the pathogen requirements in 503.32 (b) (3) are met.

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**FOR THE CITY OF LOS ANGELES
TERMINAL ISLAND TREATMENT PLANT**

BY: Clarence C. Mansell Jr.
CLARENCE C. MANSELL, JR.

7-8-97
DATE

**CITY OF LOS ANGELES
TERMINAL ISLAND TREATMENT PLANT**

**BIOSOLIDS CERTIFICATION STATEMENT
FOR MEETING PATHOGENS AND VECTOR
ATTRACTION REDUCTION REQUIREMENTS
JULY AND AUGUST 1997**

The following pathogens and vector attraction reduction requirements information has been prepared in accordance with the USEPA 40CFR Part 503 Sewage Sludge Regulations:

503.17 (a) (4) (i) (C) - A description of how the pathogen requirements in 503.32 (b) (3) are met.

Sludge undergoes anaerobic mesophilic digestion with a mean cell residence time greater than 15 days and temperature at 35 to 55 degrees Celsius.

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**FOR THE CITY OF LOS ANGELES
TERMINAL ISLAND TREATMENT PLANT**

BY: Clarence C. Mansell, Jr.
CLARENCE C. MANSELL, JR.

9-9-97
DATE

CITY OF LOS ANGELES
TERMINAL ISLAND TREATMENT PLANT

BIOSOLIDS CERTIFICATION STATEMENT
FOR MEETING PATHOGENS AND VECTOR
ATTRACTION REDUCTION REQUIREMENTS

SEPTEMBER AND OCTOBER 1997

The following pathogens and vector attraction reduction requirements information has been prepared in accordance with the USEPA 40CFR Part 503 Sewage Sludge Regulations:

503.17 (a) (4) (i) (C) - A description of how the pathogen requirements in 503.32 (b) (3) are met.

Sludge undergoes anaerobic mesophilic digestion with a mean cell residence time greater than 15 days and temperature at 35 to 55 degrees Celsius.

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FOR THE CITY OF LOS ANGELES
TERMINAL ISLAND TREATMENT PLANT

BY: Clarence C. Mansell, Jr.
CLARENCE C. MANSELL, JR.

11-10-97
DATE

CITY OF LOS ANGELES
TERMINAL ISLAND TREATMENT PLANT

BIOSOLIDS CERTIFICATION STATEMENT
FOR MEETING PATHOGENS AND VECTOR
ATTRACTION REDUCTION REQUIREMENTS

NOVEMBER AND DECEMBER 1997

The following pathogens and vector attraction reduction requirements information has been prepared in accordance with the USEPA 40CFR Part 503 Sewage Sludge Regulations:

503.17 (a) (4) (i) (C) - A description of how the pathogen requirements in 503.32 (b) (3) are met.

Sludge undergoes anaerobic mesophilic digestion with a mean cell residence time greater than 15 days and temperature at 35 to 55 degrees Celsius.

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FOR THE CITY OF LOS ANGELES
TERMINAL ISLAND TREATMENT PLANT

BY: Clarence C. Mansell, Jr.
CLARENCE C. MANSELL, JR.

1-7-98
DATE